Aligning Maintenance with Business Goals

Reduce costs. Improve performance. Those are among the goals of many businesses. All too often, maintenance managers find themselves between a rock and a hard place: improve maintenance, reduce costs. By its very nature, the *maintenance function* is a business expense. As an extreme, we could eliminate the maintenance budget to reduce costs. Then, the business would suffer under the much more costly run-to-failure equipment management practice: increased cost of repair and lost revenues from unpredictable unplanned equipment and facilities downtime.

So what is maintenance anyway? "Actions for sustaining a desired level of performance." For maintenance then, the big picture is more about sustaining a desired level of business performance.

Let's be clear: we could be discussing the *maintenance department* as we explore the principles of aligning maintenance with business goals. But when we look at the scope of maintenance work, we must think and look well beyond the maintenance department and consider the *maintenance function* regardless of the department or organization performing the work. This is a crucial perspective when aligning maintenance with business goals.

All too often, the *maintenance department* is perceived as the responsible party for caring for the health and well-being of equipment and facilities. However, many (if not most) of the causes of unhealthy and poor-performing equipment and facilities go well beyond the scope of the maintenance department. Maintenance only addresses symptoms, not the true causes of the problems.

Maintenance Efficiency and Effectiveness

Peter Drucker, noted business management consultant, author, and educator (1909–2005) defined efficiency and effectiveness this way:

- **Efficiency**: Doing things right, able to accomplish something with the least waste of time and effort (focuses on process)
- **Effectiveness**: Doing the right things, producing the intended or expected result (focuses on results, outcomes, and throughput)

Just because maintenance is performed efficiently does not mean it is effective.

Race-team pit crews offer an excellent example here. An efficient pit stop can be performed in record times. The pit crew's work processes are highly **efficient**. But if they always change four tires, even when only two tires are showing signs of performance-handling wear, the pit stop is **ineffective**. In the context of the business of racing and pit stops, it is not the responsibility of the pit crew (let's call them the maintenance crew) to determine how many tires to change. The crew chief (let's call him or her the maintenance manager) reviews the previous tire performance data compared with racecar handling as reported by the driver and determines the tire-changing tasks to be performed during each pit stop.

After all, the goal of a race is not only flawless work execution (efficiency) by the pit crew but also performing pit stops in such a manner that the business goal of winning the race is a top priority (effectiveness).

All too often, we focus on measuring and improving maintenance **efficiency**: PM schedule compliance, mean time to repair, actual hours/planned hours, planning variance, PM/PdM yield, etc. While these often lead to excellent maintenance practices, they must be balanced with maintenance **effectiveness**.

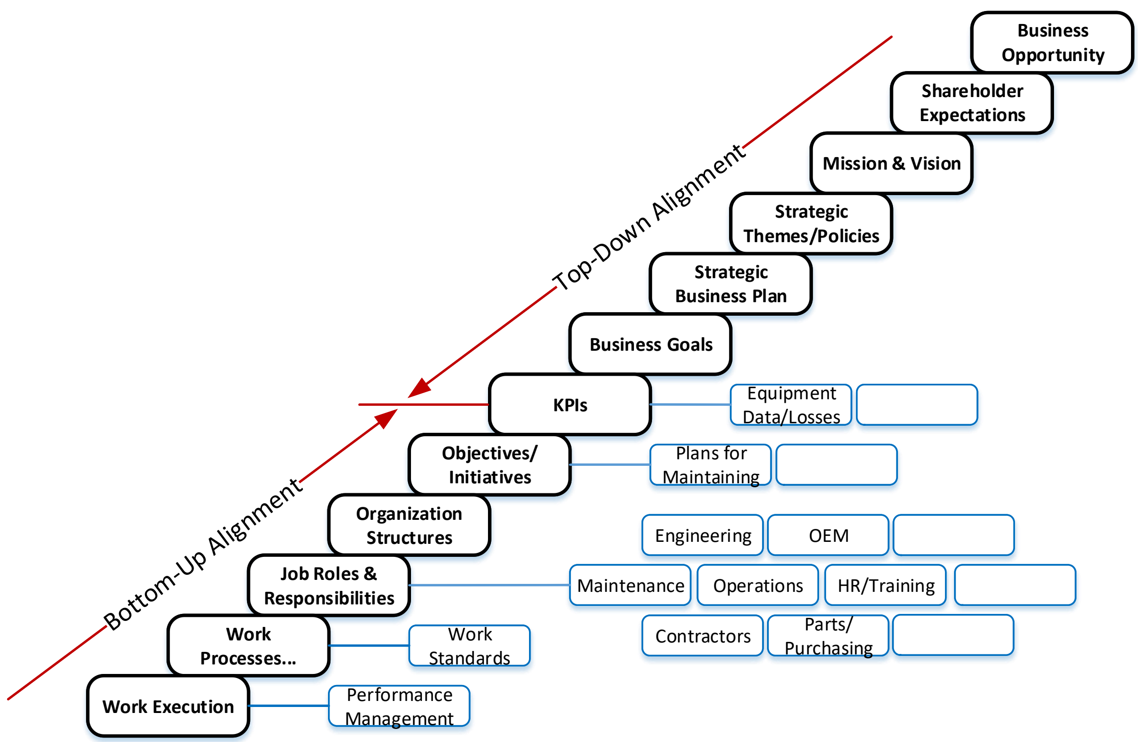
Aligning the maintenance functions with business goals assures maintenance **effectiveness**. Maintenance actions then, contribute to the goals of the business.

A retrospective: When the Japan Institute for Plant Maintenance (JIPM) defined the five Pillars of Total Productive Maintenance in the 1990s, they used the terms **efficiency** and **effectiveness** quite wisely:

TPM Pillar #3: Improving maintenance **efficiency** and **effectiveness**
TPM Pillar #1: Improving equipment **effectiveness** by focusing on the major losses

Line of Sight
I have discussed asset management in several articles over the years, along with the importance of aligning an organization's work processes with their goals. Both *PAS-55:2008 Asset Management Specification* and the *ISO55000: 2014 Asset Management Standard* refer to the importance of aligning asset management practices to the goals of the business. In fact, PAS-55 referred to this alignment as a "line of sight." This alignment was designed to assure the business effectiveness of asset management practices.

Let's drill down a line of sight from the upper-most purposes of a business all the way down to work execution on the plant floor. The diagram shown here captures this comprehensive line of sight.



Since business terminology varies widely, here are my clarifications and some examples:

- Business opportunity ("our market, customers, or requirements")
- Shareholder or owner expectations ("return on the investment")
- Organization's mission or vision ("who we are and where we want to be")
- Strategic themes and policy statements ("guiding principles")
- Strategic business plan ("what and why")
- Business goals ("what we want to accomplish")
- Key performance indicators (KPIs) ("measuring what's critical: financial, customer, process, people, regulatory …")
- Objectives and strategic initiatives ("what and how")
- Organizational structures ("our divisions, cost centers, departments, shifts, crews")
- Job roles and responsibilities, job requirements ("who, what, where, when")
- Work processes, methods, procedures, and systems ("how work should be performed")
- Work execution ("performance management")

Top-down, bottom-up
There are two ways to look at this line of sight: top down and bottom up. Most businesses began with the top-down alignment to define their business model and what they will measure to determine if their business is on the path to success. Their KPIs are often their measures of success. Then, from the bottom-up, we see work execution being the fundamental actions required to meet the business goals as measured by the KPIs. The two paths (top down and bottom up) meet in the middle, aligned toward the same KPIs.

Connecting and aligning work execution to the KPIs are some of the most critical links in the process. The KPIs can be made actionable by linking to the appropriate equipment utilization losses. Specific objectives or initiatives are determined from the KPIs, organizational structures are defined, specific job roles and responsibilities (in various departments) are defined, work processes developed to define how work is to be performed—all leading to flawless work execution necessary to achieve the business goals (as in the pit crew example).

Seeking Alignment
Aligning the work culture, the organization's behaviors with a line of sight to business goals begins by communicating the business opportunity and how the organization needs to pull in the same direction to take full advantage of the opportunity. Aligning maintenance with business goals is only one of many alignments that must exist in successful businesses. For maintenance, remember that the maintenance department alone cannot effectively maintain the equipment and facilities. More and more, we have learned that the maintenance function is a team sport that requires multiple disciplines at various stages in the life cycle of a physical asset. Paying attention to maintenance work processes and maintenance efficiency are good things to measure. But when we **align** the outcomes of maintenance work processes with the business goals, maintenance truly becomes effective in a business model.

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